

DT01 Rec'd PCT/PTC 10/523479  
04 FEB 2005

## SEQ ID NO: 1 (Human CatSper 3 cDNA)

ATGAGGGATA ATGAAAAGGC CTGGTGGCAG CAATGGACCT CCCATACAGG 0050  
CCTCGAGGGG TGGGGCGGGA CTCAGGAGGA CCGTATGGGG TTTGGAGGGG 0100  
CAGTAGCTGC ACTGAGGGGC CGCCCCTCTC CCCTGCAGAG TACCATTAC 0150  
GAGTCCTACG GTCGGCCAGA GGAGCAAGTG CTCATCAACC GCCAGGAAAT 0200  
CACGAACAAA GCGGACGCCT GGGACATGCA GGAGTTCATC ACTCACATGT 0250  
ACATCAAGCA GCTGCTCCGA CACCCCGCCT TCCAACCTGT GCTGGCCCTG 0300  
CTGCTGGTGA TCAATGCCAT CACCATCGCT CTCCGTACCA ACTCCTACCT 0350  
GGACCAGAAA CACTATGAGT TGTCTCTAC CATAGATGAC ATTGTGCTGA 0400  
CCATCCTTCT TTGTGAGGT CTCCTTGGCT GGCTCAATGG CTTCTGGATT 0450  
TTCTGGAAGG ACGGCTGGAA CATCCCAAC TTCATTATCG TCTTTATCTT 0500  
GCTCTTGGCG TTCTTCATTA ATGAAATCAA TATCCCTCC ATCAACTACA 0550  
CTCTCAGGGC GCTTCGCTG GTGCATGTGT GCATGGCGGT GGAGCCCCTC 0600  
GCCCCGATCA TCCGCGTCAT CCTGCAGTCG GTGCCTGACA TGGCCAATAT 0650  
CATGGTCCTC ATCCTCTTCT TCATGCTGGT TTTTCCGTG TTTGGAGTAA 0700  
CACTCTTTGG TGCATTCTG CCAAGCATT TCCAGAACAT ACAGGTTGCG 0750  
CTGTACACCC TCTTCATCTG CATCACCCAG GACGGCTGGG TGGACATCTA 0800  
CAGTGACTTC CAGACAGAGA AGAGGGAATA TGCAATGGAG ATTGGGGGTG 0850  
CCATCTACTT TACCATCTT ATCACCATCG GTGCCTTCAT TGGCATCAAC 0900  
CTGTTTCGTA TCGTGGTGAC CACCAACCTG GAGCAAATGA TGAAGGCAGG 0950  
AGAGCAGGGA CAACAGCAAC GAATAACCTT TAGTGAGACA GGCGCAGAGG 1000  
AAGAGGAGGA GAATGACCAG CTGCCACTGG TGCATTGTGT GGTCGCCCCG 1050  
TCGGAGAAAT CTGGTCTCCT CCAGGAACCC CTTGCGGGAG GCCCCCTGTC 1100  
GAACCTCTCA GAAAACACGT GTGACAACTT TTGCTTGGTG CTTGAGGCAA 1150  
TACAGGAGAA CCTGAGGCAG TACAAGGAGA TCCGAGATGA ACTCAACATG 1200  
TAG 1203

## SEQ ID NO: 2 (Human CatSper 3 Protein Sequence)

MRDNEKAWWQ QWTSHTGLEG WGGTQEDRMG FGGAVAALRG RPSPLQSTIH 0050  
ESYGRPEEQV LINRQETNK ADAWDMQEFI THMYIKQLLR HPAFQLLLAL 0100  
LLVINAITIA LRTNSYLDQK HYELFSTIDD IVLTILLCEV LLGWLNGFWI 0150  
FWKDGWNILN FIIVFILLR FFINEINIPS INYTLRALRL VHVCMAVEPL 0200  
ARIIRVILQS VPDMANIMVL ILFFMLVFSV FGVTLFGAFV PKHFQNIQVA 0250  
LYTLFICITQ DGWVDIYSDF QTEKREYAME IGGAIYFTIF ITIGAFIGIN 0300  
LFVIVVTTNL EQMMKAGEQG QQQRITFSET GAEBEENDQ LPLVHCVVAR 0350  
SEKSGLLQEP LAGGPLSNLS ENTCDNFCLV LEAIQENLRQ YKEIRDELNM 0400

## SEQ ID NO: 3 (MURINE CatSper 3 cDNA)

ATGTCTGAAA AACACAAGTG GTGGCAGCAG GTGGAGAACA TCGACATCAC 0050  
ACACCTGGGC CCTAAGAGAA AAGCCTATGA ACTCCTGGGT CGGCATGAGG 0100  
AGCAAGTGCT CATCAACCGC AGAGATGTCA TGGAGAAGAA GGATGCCTGG 0150  
GATGTACAGG AATTCATCAC TCAAATGTAT ATCAAGCAGT TGCTCCGCCA 0200  
TCCGGCCTTC CAGCTGCTGC TGGCCTTCT GCTGCTGTCC AACGCCATCA 0250  
CCATTGCCCT TCGCACCAAC TCTTATCTCG GTCAGAAACA CTACGAGCTA 0300  
TTCTCGACCA TAGATGACAT TGTGTTGACG ATCCTTATCT GCGAGGTTCT 0350  
GCTTGGTTGG CTTAACGGCT TCTGGATTTT CTGGAAGGAT GGCTGGAATA 0400  
TCCTCAACTT CGCAATTGTC TTTATCTTGT TTATGGGGTT CTTATAAAA 0450  
CAACTTGACA TGGTTGCCAT CACCTACCCT CTCAGGGTGC TCCGGCTGGT 0500  
GCATGTGTGT ATGGCGGTGG AACCCCTGGC CAGAATCATC AAGGTTATCC 0550  
TGCAGTCGAT GCCAGACTTG GCCAATGTCA TGGCTCTCAT CCTCTTCTC 0600  
ATGCTGGTAT TCTCTGTGTT TGGGGTCACG CTCTTCGGTG CATTGTGCC 0650  
CAAGCATTTC CAGAACATGG GGGTTGCCCT GTACACGCTC TTCATCTGCA 0700  
TCACTCAGGA TGGATGGCTG GACATCTACA CTGACTTCCA GATGGATGAA 0750  
AGAGAGTACG CGATGGAGGT CGGGGGCGCC ATCTACTTTG CCGTCTTTAT 0800  
CACCCCTCGGT GCCTTCATTG GTCTCAACTT GTTCGTCGTC GTGGTGACCA 0850  
CAAACCTGGA ACAAATGATG AAGACCGGCG AGGAAGAGGG ACACCTGAAC 0900  
ATAAAGTTTA CTGAGACAGA AGAGGATGAG GACTGGACCG ACGAGCTGCC 0950  
ACTGGTGCAT TGTACAGAG CCCGCAAGGA TACTTCCACT GTCCCCAAGG 1000  
AACCCTGGT TGGGGGCCCC CTGAGTAACC TCACAGAAAA GACCTGCGAT 1050  
AACTTCTGCT TGGTGCTTGA AGCAATACAG GAGAACTTGA TGGAGTACAA 1100  
AGAGATCCGA GAGGAACCTA ACATGATCGT GGAGGAAGTG TCCTCCATCC 1150

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GGTTCAACCA GGAGCAGCAA AATGTGATCC TACACAAGTA TACCTCCAAA 1200  
 AGCGCCACCT TCTAAGCGA GCGCCAGAA GGGGCTAACA AGCAAGACTT 1250  
 GATCACTGCG CTGGTCAGCA GGGAAAAGGT GTCTGATTCT AACATAAACA 1300  
 TGGTTAACAA ACACAAGTTC AGCCACTGA 1329

## SEQ ID NO: 4 (Murine CatSper 3 Protein Sequence)

MSEKHKWWQQ VENIDITHLG PKRKAYELRG RHEEQVLINR RDVMEKKDAW 0050  
 DVQEFITQMY IKQLLRHPAF QLLLAFLLS NAITIALRTN SYLGQKHYEL 0100  
 FSTIDDIVLT ILICEVLLGW LNGFWIFWKD GWNILNFAIV FILFMGFFIK 0150  
 QLDMVAITYP LRVLRVHVC MAVELARII KVILQSMPDL ANVMALILFF 0200  
 MLVFSVFGVT LFGAFVPKHF QNMGVALYTL FICITQDGWL DIYTDQFQDE 0250  
 REYAMEVGGG IYFAVFITLG AFIGNLNFVV VVTNNLEQMM KTGEEEGHLN 0300  
 IKFTETEEDD DWTDDELPLVH CTEARKDTST VPKEPLVGGP LSNLTEKTC 0350  
 NFCLVLEAIQ ENLMEYKEIR EELNMIVEEV SSIRFNQEQQ NVILHKYTSK 0400  
 SATFLSEPPE GANKQDLITA LVSREKVSIDS NINMVNKHKF SH\* 0442

## SEQ ID NO: 5 (hCatSper3 5' flanking sequence containing basal promoter region)

GGGCTGCCGG GGGTAGGAGG TGGGGATAAA CAACAGGGCG TGGAGCTCAG 0050  
 ACAGAAACCC TCTGTGCTTT CCACCCTGCC TGCAGCCCAG CCCTGCTCAA 0100  
 GCTGGGAGTG CCCTCCATGG AGACACATCA CCTGCAGCCA CCCCCACACA 0150  
 GCGCAGCCCA CGGACCTCCT TTGGCTCTCT GACAGGTGCT GGGCTGGAGT 0200  
 TGGGAGCTGG GCTGGGGGCT GGGGTGGGCA CATCCTCATC CTGCTCTTCC 0250  
 CTCCACACAGA CAGCAGTGAA GAGGCACTGG AAGGAATGGT ACGGGGGCTG 0300  
 AGGCAGGGTG GCGTGTCCCT CCTAGGCCAG CCACAGCCCC TGACCCAGGA 0350  
 ACAGTGGCGG AGCTCTTTCA TCGGCGCAA CCGAGACCCT CAGCTCAATG 0400  
 AGCGAGTGCA CCGTGTGCGG GCGCTACAGA GCACACTCAA GGTCAGCTGG 0450  
 GGGGCTCTGG GCACAGCAAG GGACTAGGCT CTGGGCTTCA GGCTTTGGTT 0500  
 TGCGGCTGTC ACCTCCACCC TGGGCACCA ACTCCAGACT CCAGACTCAG 0550  
 CTCCGGAGTC TGGGCTTAGC AGCTGACAGC GGGCTCAGCT GTGGACTGGG 0600  
 CCAGGCTCTG GGTTCGAGT GGGGATTTGA GTCTCACCTA GGCTCCTCGT 0650  
 GCCACGCTGG CCAGGTGCTG GCTTCCAGGC ACCGGACCTC CGGAGTGAAG 0700  
 TCTGGCCTCG GGCTCTGCCC ACTTCCCTGG GTGATCATGG TCCCTTAGCC 0750  
 CCTCCTCTCC ACACAGGCAA AGCTGCAGGA GCTGCAGGTC CTAGAAGAAG 0800  
 TGCTGGGTGA CCCTGAGCTG ACAGGAGAGA AGTTCGCGCA GTGGAAGGAG 0850  
 CAGAACCGGG AGCTGTACTC AGAGGGCCTG GGGGCCTGGG GAGTGGCACA 0900  
 GGCTGAAGGC AGCTCCACCA TCTTGACCTC TGACTCCACA GAACAGTCCC 0950  
 CCCACTCCCT GCCCTGAC CCTGAAGAGC ACTCCCATCT CTGCCCCCTG 1000  
 ACCTCAGAGT CCAAGCCTCG ACCTCCTGAC CTCTGACCCT GGCCAGCACT 1050  
 CTAGCTCCTG ACCTTTGACC CGAGGGCCAC CTCAACCCCA GCTTCTGACG 1100  
 TGTCAGGAC AGAGCATCCC TGGATTCTGT TCAGGGTGGG AAGTAGTACT 1150  
 GCTAGTCATG GTCTACCCCC GAGCTGACCC CTCTGCCTGG GCTTTGTGCC 1200  
 ACCCTCTCCC TTGCCAAAGA AGAACTCTC CCCCCAAATC CTCCAACCTC 1250  
 TGGGGCCACA GCCCTGCCCC TCCAGTTTCT TGGCAGTTCT CCCCCAAACC 1300  
 AGGTCTGTAC AGGTGTTCTT TATTTTACAT GAGGGCTACT TTCCAACCAA 1350  
 ATAAAGTCAA TTTTCTAAG AATGAGTCTA CATGTAACCT TACTTCCATA 1400  
 TTCGAATTGG AAATCTGCCC CCCTGTGGGG ACTGGGGTGA GTGCTCTTGG 1450  
 CCAGAGGGTG GGTGGCAGAC CTTTCGTGCA GCGGTTGGC CTGGGCTCTG 1500  
 TACCCGAGCT CCAAGCCTGC CAGGATGGTG GGGGATGACC CATGGCTAAT 1550  
 GAGGGCTCCG ACTCATGTCC ACCTCTCCCC AGCTCTTTGA AGGCTAATGG 1600  
 TGATCTCCTA CCCCATTCCC GGGGGGCACA CAATGAGAAA CTTCCACTTT 1650  
 GTAGATGGGG AAATGCACTT TGCACGGAAA GGTGGTGGGG ACAGTCCCTG 1700  
 AGACTGGGCT GGTAGGACAG GGCAGCTGGT GGGGAAGGGT GCAGGTTGAG 1750  
 GTCTGCCCTG GGAAGGCCCT GGGGAAAACA CTTCTCTCCT TCACTCCTCA 1800  
 TTCCAGCCTC ACCTCCACCT CTTGGATCCA AGGCAGGGAC ATGTCCCTGT 1850  
 GACTCCATTC AGGCTGCACG GGAAATCTGA CTTGCTCCCA TCAGCCTCTG 1900  
 ACTTCCAACC CCAGCCCAGC ATCCCCACAG CATCCCCAGA CTTCTCTGT 1950  
 GGGATGCGGA GGAGGGCCAA TGGAGGAGC TTCTCTCCAG GTTGGAATTC 2000  
 CTCAGTAGAA TGCAGACGGC TGGAGGTCAC AGAGGCCTCT GTGATATCAC 2050  
 CACGAGGGGG AGTGAGACCA CTTGGAGTG 2079

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SEQ ID NO: 6 (hCatSper3 5' UTR)

AAGATTCTTT GAGGAGAAGG AAGAGACTGA GCAAAC

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SEQ ID NO: 7 (hCatSper3 3' UTR)

GGGAGGGTAC TGGGGCTGCC CCAAGTCAT GTGAGTCAAG GCTGGGCGGA	0050
GCGTCAGAGT CTTCTGGCCT TCACGCCCTC ACCATTTATA AGGCAGAGCC	0100
TGGGCCCCAC AGAGGTCCCC CACCCTATTG GTGGAGGAAC TGAATCCAG	0150
ACTCCAGGTT CCTTCCATCT CACACAAGGG CACAGCTCGG CCTGGGTCTC	0200
TGTCAGGGCT GCGTGGGAGA GCGAAGCGGG GGTGACGCCA GGGAAGAGGT	0250
GGGAGGGCTG CTTCCCTCCC CTGAGGCCTT CTGAAAGGCA CTCACTGCTC	0300
CACCCCCAGG ATTGTGGAGG AGGTGCGTGC AATCCGCTTC AACCAGGAGC	0350
AGGAGTCAGA GGTGTTGAAC AGGCGCTCGT CGACGAGCGG GTCGTTGGAG	0400
ACTACGTCAT CCAAGGACAT CCGCCAGATG TCTCAACAGC AAGACTTGCT	0450
CAGTGCGCTC GTTAGCATGG AAAAGGTG	0478